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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,537	03/30/2001	Abdeslam Bouti	H-581US-0	7661

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EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,537

Applicant(s)

BOUTI, ABDESLAM

Examiner

Emmanuel S. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-21, 23, 24 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21, 23, 24 and 35-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 19, 20, 35 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Gellert.

Gellert teaches a mixer bushing (28) inserted in a bore (24) of a hot runner manifold (18), the mixer bushing having a flow inlet (58), an exit (34) perpendicular to the inlet, an internal surface between the inlet and exit on which a helical channel (58) is formed, a valve stem (4) slidably inserted in the mixer bushing coaxially with the helical channel (Fig. 2), the helical channel reduces in cross-sectional area in direction of the flow (Fig. 4).

The flowing melt transitioning from circular flow to annular flow as it travels from the inlet to the exit is an intended use of the apparatus and does not provide any structural limitations necessary in an apparatus claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 23, 24, 39, 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gellert (4,303,382).

Gellert teaches a mixer bushing (28) inserted in a bore (24) of a hot runner manifold (18), the mixer bushing having a flow inlet (58), an exit (34) perpendicular to the inlet, an internal surface between the inlet and exit on which a helical channel (58) is formed, a valve stem (4) slidably inserted in the mixer bushing coaxially with the helical channel (Fig. 2), the helical channel reduces in cross-sectional area in direction of the flow (Fig. 4).

The flowing melt transitioning from circular flow to annular flow as it travels from the inlet to the exit is an intended use of the apparatus and does not provide any structural limitations necessary in an apparatus claim.

Gellert fails to teach a valve stem for maintaining alignment, a piston housing affixed to the top of the mixer bushing and a nozzle body.

In regards to the valve stem, Gellert teaches a valve stem that is slidable in the helical channel. Additionally, the valve stem would maintain alignment of the mixer

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bushing since it runs from the housing to the bushing in a straight line that would allow for alignment.

In regards to the piston housing, Gellert teaches a piston (44) that is attached to the top of the valve stem (Fig. 1). The portion (27) is affixed to the bushing via threads (30), it would have been obvious to one of ordinary skill in the art to have made the piston integral with the portion and thus affixed to the top of the bushing.

In regards to claim 42, the nozzle body is integral with the mixer bushing (Fig. 1) and thus it would have been obvious to one of ordinary skill in the art to modify Gellert with incorporating the nozzle body with the mixer bushing.

5. Claims 21, 36-38, 43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gellert as applied to claims 19, 20, 23, 24, 35, 39, 40, 42 and 44 above, and further in view of Swenson et al.

Gellert fails to teach a gap between the helical channel and the valve stem that gradually increases and a locator.

Swenson teaches the increase of the longitudinal melt flow as the spiral melt flow steadily decreases along the length of the insert (21). The flow first contacts the valve pin (17) and the flow is substantially entirely longitudinal toward the gate and is not subject to separation by the valve pin (Col. 5, lines 1-6). Swenson also teaches a locating pin (24) that is the locator that maintains alignment between the mixer and the nozzle.

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It would have been obvious to one of ordinary skill in the art to modify Gellert with a locating pin and a gap that increases between the helical channel and valve stem as taught by Swenson because it this groove construction eliminates dead spots and flow separation about the valve pin that results in good mixing of the flow resulting in a thermally homogeneous melt of uniform flow rate and consistency to gate (9).

Response to Arguments

6. Applicant's arguments with respect to claims 19-21, 23, 24, 35-45 have been considered but are moot in view of the new ground(s) of rejection. Gellert teaches the helical channel located on the internal surface of the mixer bushing that Swenson fails to teach that is the scope of the invention. Examiner must regretfully withdraw the allowance of claims 35-41 in light of Gellert.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (703) 305-1558. The examiner can normally be reached on Monday through Friday 8 to 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

E.L.

February 19, 2003


W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700